



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,091	11/17/2003	Bradford G. Corbett JR.	20470.015-AP	3254
42922	7590	07/13/2006	EXAMINER	
WHITAKER, CHALK, SWINDLE & SAWYER, LLP			STAIKOVICI, STEFAN	
3500 CITY CENTER TOWER II			ART UNIT	
301 COMMERCE STREET			PAPER NUMBER	
FORT WORTH, TX 76102-4186			1732	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/715,091	Applicant(s) CORBETT, BRADFORD G.	
	Examiner Stefan Staicovici	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 22, 2006 has been entered.

Response to Amendment

2. Applicant's amendment filed May 22, 2006 has been entered. Claims 1-4 are pending in the instant application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett, Jr. (US Patent No. 6,328,309 B1) in view of Doolittle (US Patent No. 3,827,660) and in further view of Ohasi (US Patent No. 4,919,297).

Corbett, Jr. ('309) teaches the basic claimed process of installing a gasket in a socket end of a thermoplastic pipe which is used to form a pipe coupling including, providing a mandrel with an inner end and an outer end and having a generally cylindrical outer working surface; installing a gasket at a first circumferential position on the outer working surface, the gasket having at least selected surfaces coated with a spray-on anti-friction coating wherein the spray-on anti-friction coating is applied by spraying on a dry powder followed by heating the powder to cause it to be fixed; providing a retention member at a second circumferential location on the mandrel nearer the inner end of the mandrel, the retention member abutting the gasket in a normally extended position but being retractable to a retracted position in a subsequent manufacturing step; heating a socket end of the thermoplastic pipe; forcing the heated socket end of the thermoplastic pipe over the working surface of the mandrel and over the gasket with the retention member being in the extended position, whereby the heated socket end of the thermoplastic pipe flows over the gasket to form a retention groove for retaining the gasket and again contacts the working surface of the mandrel; cooling the heated socket end of the thermoplastic pipe; retracting the cooled socket end of the thermoplastic pipe and the retained gasket from the working surface of the mandrel (see claim 1 of Corbett, Jr. ('309)). Further, Corbett, Jr. ('309) teaches that said sprayed anti-friction coating is polytetrafluoroethylene (TeflonTM) (see claim 6 of Corbett, Jr. ('309)).

Regarding claim 1, although Corbett, Jr. ('309) teaches a TeflonTM anti-friction coating, Corbett, Jr. ('309) does not teach a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber (NBR). Doolittle ('660) teaches

that both TeflonTM and polyurethane coatings are used as anti-friction coatings (see col. 4, lines 5-10). Ohasi ('297) teaches that it is well known that, nitrile rubber (NBR) and polyurethane are equivalent materials in providing similar oil resistance. Further, it is submitted that the price of polyurethane is less than that of nitrile rubber. Therefore, in view of the teachings of Ohasi ('297) that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), it would have been obvious for one of ordinary skill in the art to provide the polyurethane coating of Doolittle ('660) as an equivalent alternative to the TeflonTM coating to the gasket in the process of Corbett, Jr. ('309) because, Doolittle ('660) specifically teaches that TeflonTM and polyurethane coatings are equivalent alternatives for making an anti-friction coating and also because, Ohasi ('297) specifically teaches that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), hence providing for an improved process. It is noted that said polyurethane coating would withstand temperature, chemical attack and abrasion because polyurethane, like any other polymeric material, to a certain degree has such properties of resisting temperature, chemical attack and abrasion.

In regard to claim 2, because the process of Corbett, Jr. ('309) in view of Doolittle ('660) and in further view of Ohasi ('297) teaches a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber, it is submitted that said coating has the same properties as those claimed.

Specifically regarding claim 3, Corbett, Jr. ('309) teaches spraying an anti-friction coating by spraying a dry powder.

Regarding claim 4, Corbett, Jr. ('309) teaches that the gasket is an elastomeric, ring shaped member having a circumferential contact area and an exterior surface, and wherein the anti-friction coating is applied to at least selected portions of the circumferential contact area (see claim 7 of Corbett, Jr. ('309)).

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett, Jr. (US Patent No. 6,676,886 B2) in view of Corbett, Jr. (US Patent No. 6,328,309 B1) and in further view of Doolittle (US Patent No. 3,827,660) and Ohasi (US Patent No. 4,919,297).

Corbett, Jr. ('886) teaches the basic claimed process of installing a gasket in a socket end of a molecularly oriented thermoplastic pipe which is used to form a pipe coupling including, providing a mandrel with an inner end and an outer end and having an outer working surface; installing a gasket at a first circumferential position on the outer working surface; providing a backup collar at a second circumferential location on the mandrel, the backup collar having an exposed lip portion which abuts the gasket at an acute angle with respect to the outer working surface of the mandrel; heating a socket end of the thermoplastic pipe; forcing the heated socket end of the thermoplastic pipe over the working surface of the mandrel and over the gasket and backup collar, whereby the heated socket end of the thermoplastic pipe flows over the gasket to form a retention groove for retaining the gasket; retracting the backup collar; cooling the heated socket end of the thermoplastic pipe; retracting the cooled socket end of the thermoplastic pipe and the retained gasket from the working surface of the mandrel; wherein the gasket is an elastomeric, ring shaped member having a circumferential contact area and an exterior surface, the exterior surface forming a sloped contact area for contacting the lip portion of the backup

collar in complimentary fashion; wherein the sloped contact area of the gasket exterior surface also forms an acute angle with respect to the working surface of the mandrel; wherein the complimentary acute angles of the backup collar and gasket form a wedge shaped contact area which serves to retain the gasket in its initial circumferential position on the working surface of the mandrel as the heated pipe is forced over the mandrel and gasket; the wedge shaped contact area exerting both a longitudinal restraining force along the pipe longitudinal axis and a radial restraining force which is perpendicular to the pipe longitudinal axis to force the gasket radially inward in the direction of the mandrel as the pipe is pushed over the mandrel.

Regarding claims 1 and 3, Corbett, Jr. ('886) does not teach spraying an anti-friction coating. Corbett, Jr. ('309) teaches spraying a TeflonTM anti-friction coating onto the gasket. Therefore, it would have been obvious for one of ordinary skill in the art to have sprayed an anti-friction coating as taught by Corbett, Jr. ('309) in the process of Corbett, Jr. ('886) because Corbett, Jr. ('309) specifically teaches that an anti-friction coating provides for an improved installation process by reducing the required insertion force for the male, spigot end when entering the female, spigot end and also because both references solve similar problems.

Further regarding claim 1, although Corbett, Jr. ('886) in view of Corbett, Jr. ('309) teaches a TeflonTM anti-friction coating, Corbett, Jr. ('886) in view of Corbett, Jr. ('309) do not teach a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber (NBR). Doolittle ('660) teaches that both TeflonTM and polyurethane coatings are used as anti-friction coatings (see col. 4, lines 5-10). Ohasi ('297) teaches that it is well known that, nitrile rubber (NBR) and polyurethane are equivalent materials

in providing similar oil resistance. Further, it is submitted that the price of polyurethane is less than that of nitrile rubber. Therefore, in view of the teachings of Ohasi ('297) that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), it would have been obvious for one of ordinary skill in the art to have provided a polyurethane coating as taught by Doolittle ('660) as an equivalent alternative to a TeflonTM coating to the gasket in the process of Corbett, Jr. ('886) in view of Corbett, Jr. ('309) because, Doolittle ('660) specifically teaches that TeflonTM and polyurethane coatings are equivalent alternatives for making an anti-friction coating and also because, Ohasi ('297) specifically teaches that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), hence providing for an improved process. It is noted that said polyurethane coating would withstand temperature, chemical attack and abrasion because polyurethane, like any other polymeric material, to a certain degree has such properties of resisting temperature, chemical attack and abrasion.

In regard to claim 2, because the process of Corbett, Jr. ('886) in view of Corbett, Jr. ('309) and in further view of Doolittle ('660) teach a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber, it is submitted that said coating has the same properties as those claimed.

Specifically regarding claim 4, Corbett, Jr. ('886) teaches that the gasket is an elastomeric, ring shaped member having a circumferential contact area and an exterior surface. Further, Corbett, Jr. ('309) teaches that the anti-friction coating is applied to at least selected portions of the circumferential contact area. Therefore, it would have been obvious for one of ordinary skill in the art to have sprayed an anti-friction coating as taught by Corbett, Jr. ('309) in

the process of Corbett, Jr. ('886) in view of Doolittle ('660) and in further view of Ohasi ('297) because, Corbett, Jr. ('309) specifically teaches that an anti-friction coating provides for an improved installation process by reducing the required insertion force for the male, spigot end when entering the female, spigot end.

Response to Arguments

6. Applicant's arguments filed May 22, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 1732

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

A handwritten signature in black ink, appearing to read 'Stefan Staicovici', written in a cursive style.

Primary Examiner

7/21/06

AU 1732

July 7, 2006